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*With international search report.**Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.*(54) Title: DRUG DESIGN BASED ON THE STRUCTURE OF LTA₄ HYDROLASE

(57) Abstract

The present invention relates to an isolated leukotriene A₄ (LTA₄) hydrolase, which LTA₄ hydrolase is present in its naturally occurring three dimensional form. It is the first three-dimensional structure of any protein component of the leukotriene cascade and enables a description of the structural basis and molecular mechanisms for the two catalytic activities of LTA₄ hydrolase. Further, the invention also relates to LTA₄ hydrolase complexed with an inhibitor. The structural information provided by the present invention will make possible rational design of enzyme inhibitors, which may be developed into clinically useful anti-inflammatory drugs.